



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,481	03/14/2007	Thomas Wigger	125215	7244
27049 7590 01/21/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
SELLERS, ROBERT E				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
01/21/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27049@oliff.com
jarnstrong@oliff.com

Office Action Summary

Application No.

10/552,481

Applicant(s)

WIGGER, THOMAS

Examiner

ROBERT SELLERS

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The election with traverse of Group I in the reply filed November 23, 2009 is acknowledged. The traversal is on the grounds that PCT Publication No. WO 00/01659 does not disclose a glass transition temperature of more than 80°C, thereby proving that the common subject matter does not make a contribution over the prior art.
2. This is not found persuasive because the Journal of Applied Polymer Science article by Lin et al. on page 620 in Table II shows glass transition temperatures of 89.7, 80.1, 85.7, 82.3, 93.5, 92.1, 86.5, 85.3°C for a diglycidyl ether of bisphenol A (page 617, Epoxy Curing in DSC, DGEBA) cured at ambient temperature with Mannich bases 1a, 1b, 3a and 3b derived from greater than 50.1 wt% of bisphenol A, formaldehyde and poly(oxyalkylene)diamines (page 617, Results and Discussion: Synthesis of Mannich Bases and page 618, Table I). Accordingly, the special technical feature does not make a contribution over the prior art and the holding of lack of unity is maintained.

The requirement is still deemed proper and is therefore made FINAL.

Accordingly, claims 15 and 16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim.

3. There is a comma missing between the polyamines 1,2-diaminocyclohexane and 1,3- and 1,4-butanediamine in claim 7, line 4 and claim 18, line 3.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 and 17-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 18-20 of copending application no. 10/552,482. Although the conflicting claims are not identical, they are not patentably distinct from each other.

4. The claims of the copending application require an epoxy system comprising a Mannich base prepared by reacting a phenolic compound of formula (I) depicted in claim 1 and corresponding to formula (I) of instant claim 2 with formaldehyde in the presence of a tertiary amine, and reacting the resulting product with at least one polyamine.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by the Journal of Applied Polymer Sciences article by Lin et al.

5. Lin et al. on page 620 in Table II shows glass transition temperatures of 89.7, 80.1, 85.7, 82.3, 93.5, 92.1, 86.5, 85.3°C for a diglycidyl ether of bisphenol A (page 617, Epoxy Curing in DSC, DGEBA) cured at ambient temperature with Mannich bases 1a, 1b, 3a and 3b derived from greater than 50.1 wt% of bisphenol A, formaldehyde and poly(oxyalkylene)diamines (page 617, Results and Discussion: Synthesis of Mannich Bases and page 618, Table I).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9-13 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent No. 6-172498 (Japanese '498).

6. Japanese '498 (HCAPLUS abstract) shows a composite containing reinforcing fibers adhered with a blend of a bisphenol A diglycidyl ether and a Mannich base derived from m-xylylenediamine, phenol and formaldehyde. The use of cresol and isophoronediamine are suitable Mannich base reactants according to the translation on page 3, lines 7-8.

7. The claimed glass transition temperature of more than 80°C after curing at a temperature of between 5°C and 60°C is not an affirmative limitation since the claims are drawn to a composition wherein the curing is merely the ultimate intended processing thereof. The critical limitations of the claims are merely the combination of an epoxy resin and Mannich base.

8. Even if considered, based on the equivalent components of the epoxy resin and Mannich base of the prior art and claims, the cured composition of the reference inherently exhibits a glass transition temperature within the claimed range. The burden of proof shifts to applicant to distinguish the claimed glass transition temperature from that inherent in the cured composition of the reference (*In re Fitzgerald*, 205 USPQ 594, CCPA 1980 and MPEP §§ 2112-2112.02).

9. The claimed two-component epoxy resin composition is merely the ultimate intended form thereof and is not an affirmative limitation. Even if given weight, the epoxy resin and Mannich base of Japanese '498 exist as separate entities prior to their admixing which is within the claimed "two-component" language.

Claims 1, 9-11 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Golden Patent No. 5,001,193 or PCT Publication No. WO 00/01659.

10. Golden (col. 2, lines 25-49) discloses a two-part adhesive wherein the first part contains a glycidyl ether group(s)-containing compound such as a diglycidyl ether of bisphenol A (col. 4, lines 62-54) and a second part containing a liquid aliphatic polyamine and/or an amidoamine, an amine-terminated curing agent and a Mannich base obtained from an alkylated phenol (col. 3, line 67 to col. 4, line 1), formaldehyde and, especially preferably, diethylene triamine (col. 4, lines 18-19).

11. The PCT publication (page 12, Example 2) shows a Mannich base obtained by reacting cardanol (a meta-C₁₅H_(31-n) substituted monophenol shown on page 8), 1,3-bis(aminomethyl)cyclohexane and formaldehyde which cures a bisphenol A epoxy resin (col. 12, Example 3) at 5°C (page 13, lines 7-8).

12. The claimed glass transition temperature of more than 80°C after curing at a temperature of between 5°C and 60°C is not an affirmative limitation since the claims are drawn to a composition wherein the curing is merely the ultimate intended processing thereof. The critical limitations of the claims are merely the combination of an epoxy resin and Mannich base.

13. Even if considered, based on the equivalent components of the epoxy resin and Mannich base of the prior art and claims, the cured composition of the references inherently exhibits a glass transition temperature within the claimed range. The burden of proof shifts to applicant to distinguish the claimed glass transition temperature from that inherent in the cured composition of the references.

Claims 1-11 and 17-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ogawa et al. Patent No. 5,075,411.

14. Ogawa et al. (col. 7, Example 2 and Table 1) shows a bisphenol F epoxy resin cured at room temperature with the reaction product of m-cresol, triethylenetetramine and formalin useable as an adhesive (col. 6, lines 15-17).

15. The claimed glass transition temperature of more than 80°C after curing at a temperature of between 5°C and 60°C is not an affirmative limitation since the claims are drawn to a composition wherein the curing is merely the ultimate intended processing thereof. The critical limitations of the claims are merely the combination of an epoxy resin and Mannich base.

16. Even if considered, based on the equivalent components of the epoxy resin and reaction product of the prior art and claims, the cured composition of the reference inherently exhibits a glass transition temperature within the claimed range. The burden of proof shifts to applicant to distinguish the claimed glass transition temperature from that inherent in the cured composition of the reference.

17. The claimed two-component epoxy resin composition is merely the ultimate intended form thereof and is not an affirmative limitation. Even if given weight, the epoxy resin and Mannich base of Japanese '498 exist as separate entities prior to their admixing which is within the claimed "two-component" language.

Claims 2-8, 12-14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese '498 and Golden as applied to the claims hereinabove, and further in view of Ogawa et al.

18. Golden is described in previous paragraphs 9 and 10. The claimed Mannich base prepared from the phenolic compound of formula (I) such as m-cresol, or (II) depicted in claim 2 is not recited.

19. Ogawa et al. is set forth in previous paragraphs 11-13 and reports the most preferred and exemplified use of m-cresol (col. 3, lines 59-60 and col. 6, Referential Example 2, poyamine reaction composition 2) as a reactant with an aliphatic polyamine and preferably formaldehyde (col. 1, lines 57-63 and col.4, lines 8-9).

20. It would have been obvious to prepare the Mannich base of Golden with a particular alkylated phenol such as the exemplified m-cresol of Ogawa et al. in order to optimize the curability by the employment of a most preferred phenol.

The prior art made of record and not relied upon is considered pertinent to the disclosure.

21. Ando et al. Patent No. 5,688,876 and Russian Patent No. 2,186,802 are directed to Mannich base curing agent for epoxy resins curable at temperatures of as low as 5°C. These references have not been applied for the sake of brevity since those relied upon hereinabove address the claimed limitations more directly.

(571) 272-1093 (Fax No. (571)-273-8300)
Monday to Friday, 9:30 to 6:00

/Robert Sellers/
Primary Examiner
Division 1796

rs
1/12/2010